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2004-2005 BOBCAT HUNTER AND TRAPPER HARVEST IN MICHIGAN

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ABSTRACT

A survey was completed to determine the number of people hunting and trapping bobcats in Michigan, the number of days spent afield (effort), and the number of bobcats registered. In 2004, 3,725 people obtained a bobcat harvest permit valid for the hunting and trapping seasons. About 73% of these permit-holders attempted to hunt or trap bobcats (2,726 furtakers), and 30% of these furtakers registered at least one bobcat. An estimated 1,816 people attempted to hunt bobcats. Hunters spent 20,768 days hunting and registered 369 bobcats. Nearly 1,249 people attempted to trap bobcats. Trappers spent nearly 29,567 days trapping and registered 630 bobcats.

INTRODUCTION

The Michigan Department of Natural Resources (DNR) has the authority and responsibility to protect and manage the wildlife resources of the State of Michigan. Harvest surveys are one of the management tools used by the DNR to accomplish its statutory responsibility. Estimating hunter participation, harvest, and hunting effort are the primary objectives of these surveys. Estimates derived from harvest surveys as well as information from mandatory registration reports, winter track counts, and population modeling are used to monitor bobcat (*Lynx rufus*) populations and establish harvest regulations.

During 2004-2005, bobcats could be harvested during both hunting and trapping seasons (Table 1). In order to hunt or trap bobcats, furtakers were required to obtain a free bobcat harvest permit, in addition to a fur harvester license. In much of the area open to bobcat hunting and trapping, furtakers could legally take and register two bobcats in all of the hunting and trapping seasons combined. However, only one bobcat could be legally taken and registered in units C or D combined (Lower Peninsula), and only one bobcat could be taken from Unit B (Drummond Island) (Figure 1). Successful furtakers were required to immediately



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attach the harvest tag to the bobcat and also required to register bobcats by March 4, 2005. Furtakers were not allowed to keep bobcats that were beyond the legal limit of bobcats per person (incidental captures). Furtakers were required to bring incidental catches to a registration station if they could not be released alive.

Trappers could use foothold traps to capture bobcats in the Lower Peninsula (LP), while foothold and body-gripping traps (i.e., conibears) were legal in the Upper Peninsula (UP). Live traps were also legal in both the UP and LP if set within 150 yards of a residence or farm building. Snares were not legal to use in Michigan for capturing bobcats. Bobcat trapping was limited to private lands only in units C and D, while both public and private lands were open to trapping in units A and B. Most hunters used dogs or calls to take bobcats (Frawley et al. 2004).

Prior to the present survey, a separate survey was completed to estimate the number of people who attempted to trap bobcats and the harvest of bobcat by trappers in the LP during 2004 (Frawley et al. 2005). The earlier survey provided estimates of participation and bobcat harvest during the trapping season in the LP, while the present survey was intended to provide comprehensive statewide data from all 2004-2005 bobcat hunting and trapping seasons. Although all furtakers harvesting a bobcat were required to present their animals at a Department of Natural Resource office for registration, this survey does not present information collected from registered bobcats.

METHODS

A questionnaire was sent to everyone who obtained a bobcat harvest permit valid for the 2004-2005 hunting and trapping seasons (3,725 permit holders). Permit-holders receiving the questionnaire were asked to report if they attempted to hunt or trap a bobcat, number of days spent afield, and number of bobcats they registered. Hunters were also asked to report their hunting method (e.g., dogs, calls) and the number of bobcats that were within range to take but they chose not to harvest. Hunters that used dogs were asked to report who owned the dogs, number of occasions their dogs chased a bobcat, and whether they hired a guide. Trappers were asked to report the number of bobcats caught in traps and the number of bobcats released alive. Trappers also were asked to report the types of traps used, their preferred trap type, and whether they caught any bobcats in a trap set for another animal. All furtakers were asked the ownership of lands where they pursued bobcats and their opinion of the status of the bobcat population in the county where they preferred to hunt or trap.

Questionnaires were mailed initially during early March 2005, and up to two follow-up questionnaires were mailed to nonrespondents. Although 3,725 people were sent the questionnaire, 97 surveys were undeliverable resulting in an adjusted sample size of 3,628. Questionnaires were returned by 2,576 people, yielding a 71% adjusted response rate.

Estimates were extrapolated from the sample (2,576 returned questionnaires) to all permit holders (3,725) using a simple random sampling design (Cochran 1977) and were presented along with their 95% confidence limit (CL). This confidence limit can be added and subtracted from the estimate to calculate the 95% confidence interval. The confidence interval is a measure of the precision associated with the estimate and implies the true value would be within this interval 95 times out of 100. Estimates were not adjusted for possible response or

nonresponse bias.

RESULTS

Hunting and Trapping Combined

In 2004, 3,725 people obtained a bobcat harvest permit valid for the bobcat hunting and trapping seasons. About $73 \pm 1\%$ (2,726) of these permit holders attempted to hunt or trap bobcats (Table 2). Furthermore, about $9 \pm 1\%$ (340 ± 23) of the permit holders attempted both hunting and trapping bobcats.

Furtakers spent 50,335 days afield ($\bar{x} = 18.5 \pm 0.6$ days/furtaker) and registered 999 bobcats ($\bar{x} = 0.37 \pm 0.02$ bobcats/furtaker). Furtakers spent about 33,946 days afield pursuing bobcats in the UP and 16,112 days in the LP. About 30% of the furtakers registered at least one bobcat. Nearly $23 \pm 1\%$ of the furtakers registered only one bobcat and $7 \pm 1\%$ registered two bobcats. An estimated 38% of the furtakers in the UP registered at least one bobcat; $25 \pm 2\%$ of these UP furtakers registered one bobcat and $13 \pm 1\%$ registered two bobcats. An estimated 21% of furtakers in the LP registered a bobcat.

Counties with 150 or more furtakers that pursued bobcats included Delta, Chippewa, Roscommon, Marquette, and Menominee counties (Table 3). Counties with more than 65 registered bobcats originating from that county included Delta, Ontonagon, Chippewa and Iron counties.

About $32 \pm 1\%$ of bobcat permit-holders reported the bobcat population was stable in the county they preferred to hunt or trap bobcats (Figure 2). About $16 \pm 1\%$ reported bobcat numbers were improving and $13 \pm 1\%$ reported fewer bobcats. Nearly $29 \pm 1\%$ of the permit-holders were uncertain of the status of bobcats.

Hunting

About $49 \pm 1\%$ (1,816 hunters) of the permit-holders attempted to hunt bobcats during the 2004-2005 seasons (Table 4). About 665 furtakers hunted in the UP and 1,226 hunted in the LP. These hunters had hunted bobcats an average of eight years (± 1 years). Bobcat hunters most frequently hunted on public land ($73 \pm 1\%$). About $42 \pm 2\%$ of the hunters hunted on private land that was not owned by themselves or their family, while $32 \pm 1\%$ hunted bobcats on their own land or land owned by their family. Nearly $31 \pm 1\%$ of the hunters hunted on public land only, $27 \pm 1\%$ hunted on private land only, and $42 \pm 1\%$ hunted on both public and private lands.

Hunters spent about 20,768 days afield hunting bobcats ($\bar{x} = 11.4 \pm 0.4$ days/hunter) and registered an estimated 369 bobcats ($\bar{x} = 0.20 \pm 0.01$ bobcats/hunter, Table 4). Hunters spent about 7,289 days afield hunting bobcats in the UP and 13,201 days hunting bobcats in the LP. Hunters registered about 37% of the bobcats registered by furtakers (Figure 3). About 18% of bobcat hunters harvested at least one bobcat. Nearly $16 \pm 1\%$ of hunters registered only one bobcat and $2 \pm 1\%$ registered two bobcats. An estimated 18% of the hunters in the

UP registered at least one bobcat; $14 \pm 2\%$ of UP trappers registered one bobcat and $4 \pm 1\%$ registered two bobcats. An estimated 18% of hunters in the LP registered a bobcat.

Counties with 125 or more hunters pursuing bobcats included Roscommon, Montmorency, Presque Isle, and Alpena (Table 5). Counties with more than 20 registered bobcats originating from that county included Montmorency, Presque Isle, Menominee, Mackinac, and Alpena.

Hunters most frequently used calls ($53 \pm 2\%$) or dogs ($47 \pm 2\%$) to hunt bobcats (Table 6). Bobcat hunters using dogs participated in an estimated $5,839 \pm 394$ chases of bobcats. About $33 \pm 1\%$ of the bobcat hunters had an opportunity to harvest a bobcat but chose not to harvest the bobcat. Thus, an estimated 597 ± 29 hunters chose not to harvest bobcats on $2,344 \pm 192$ occasions. Among those hunters that passed up an opportunity to take a bobcat, $31 \pm 2\%$ passed one bobcat, $23 \pm 2\%$ passed two bobcats; $11 \pm 2\%$ passed three bobcats, $8 \pm 1\%$ passed four bobcats, and $25 \pm 2\%$ passed five or more bobcats. The estimate of the number of bobcats passed up by hunters should be viewed cautiously because hunting partners may have reported passing the same bobcat; thus, the estimate will be inflated by an unknown amount. Few bobcat hunters ($5 \pm 1\%$) that hunted with dogs hired a guide service to assist with their hunting (46 ± 9 hunters).

About $32 \pm 1\%$ of bobcat hunters reported the bobcat population was stable in the county they preferred to hunt bobcats. About $13 \pm 1\%$ reported bobcat numbers were improving and $19 \pm 1\%$ reported fewer bobcats. Nearly $26 \pm 1\%$ of bobcat hunters were uncertain of the status of bobcats.

Trapping

An estimated $34 \pm 1\%$ (1,249 trappers) of the permit-holders trapped bobcats during the 2004-2005 season (Table 7), and these trappers had trapped bobcats an average of seven years (± 1 year). About 869 furtakers trapped in the UP and 354 trapped in the LP. Nearly equal proportions of trappers trapped bobcats on private land owned by themselves or their family ($47 \pm 2\%$), private lands that were not owned by themselves or their family ($44 \pm 2\%$), and public land ($46 \pm 2\%$). About $54 \pm 2\%$ trapped on private land only, $16 \pm 1\%$ of the trappers trapped on public land only, and $30 \pm 2\%$ trapped on both public and private lands.

Trappers spent about 29,567 days afield trapping bobcats ($\bar{x} = 23.7 \pm 1.0$ days/trapper), caught 923 bobcats, registered 630 bobcats ($\bar{x} = 0.50 \pm 0.03$ bobcats/trapper), and released 276 bobcats from their traps during the 2004-2005 season (Table 7). Trappers spent about 26,656 days trapping bobcats in the UP and 2,911 days trapping in the LP.

Trappers registered about 63% of the bobcats registered by furtakers (Figure 3). About 43% of bobcat trappers captured at least one bobcat and 39% registered at least one bobcat. Nearly $27 \pm 2\%$ of the trappers registered only one bobcat and $12 \pm 1\%$ registered two bobcats. An estimated 46% of the trappers in the UP registered at least one bobcat; $29 \pm 2\%$ of these UP trappers registered one bobcat and $17 \pm 2\%$ registered two bobcats in the UP. An estimated 23% of trappers in the LP registered a bobcat. Nearly $9 \pm 1\%$ of the bobcat trappers released 276 bobcats from their traps. About $12 \pm 1\%$ of the bobcat trappers caught a bobcat in a trap set for another furbearer.

Counties with 75 or more trappers pursuing bobcats included Delta, Chippewa, Iron, Ontonagon, Marquette, and Menominee (Table 8). Counties with more than 50 registered bobcats originating from that county included Delta, Ontonagon, Iron, and Chippewa.

Most trappers used foothold traps (83%), while 39% of the trappers used body gripping traps ((i.e., conibears) (Table 9). Most trappers preferred to use foothold traps (48%), while 25% preferred to use conibears (Table 10). However, conibears were not legal to use for bobcats in the LP. An estimated 22% of trappers did not have a preferred trap type.

About $44 \pm 2\%$ of bobcat trappers reported the bobcat population was stable in the county they preferred to trap bobcats. About $25 \pm 2\%$ reported bobcat numbers were improving and $10 \pm 1\%$ reported fewer bobcats. Nearly $18 \pm 1\%$ of bobcat hunters were uncertain of the status of bobcats.

DISCUSSION

About 30% of bobcat hunters and trappers combined registered at least one bobcat in Michigan during the 2004-2005 seasons, while 25% of bobcat hunters and trappers harvested at least one bobcat in Michigan during 2003-2004 (Frawley et al. 2004). Success rates in Michigan during recent years have been similar to success rates of hunters and trappers in Wisconsin (26% in 2002 and 35% in 2003; Kitchell and Olson 2003, Kitchell and Olson 2004) and in Pennsylvania (28% in 2002, Lovallo 2003) during recent years.

Prior to 2004, only hunters were allowed to harvest a bobcat in the LP, as bobcat trapping was restricted to the Upper Peninsula (UP) (Frawley et al. 2004). In 2004, an 11-day bobcat trapping season (December 10-20) was held on private lands in portions of the LP. In our present study, we estimated that 354 trappers spent 2,911 days afield, and they captured 158 bobcats and released 69 bobcats alive. About 29% of the trappers captured at least one bobcat. These estimates did not differ significantly from previous estimates of participation and harvest in the LP (Frawley et al. 2005).

Nearly equal numbers of furtakers (hunters and trappers combined) pursued bobcats in the Upper and Lower peninsulas; however, furtakers expended over twice as much effort in the UP than the LP (Table 2). Moreover, furtakers in the UP registered over twice as many bobcats as the furtakers in the LP. The proportion of furtakers registering a bobcat was higher in the UP than the LP (38% versus 21%). These differences between regions partly reflect differences in regulations as furtakers could legally harvest only one bobcat from the LP, while two bobcats could be taken from the UP. Moreover, hunting and trapping seasons were longer in the UP than in the LP (Table 1).

Nearly twice as many people attempted to hunt bobcats in the LP than in the UP (Table 4), although the season is shorter in the LP (Table 1). Hunters in the LP spent nearly twice the amount of days hunting bobcats than their counterparts in the UP. Hunters in the LP had more occasions where they chose not to harvest a bobcat than hunters in the UP; however, the proportion of hunters registering at least one bobcat was the same for hunters in the LP and UP.

More than twice as many furtakers trapped in the UP than in the LP, and these UP trappers devoted nearly nine times more effort than their counterparts in the LP (Table 7). Trappers in the UP also registered about seven times more bobcats than trappers in the LP. These differences between regions were likely the result of differences in regulations. Furtakers could legally harvest only one bobcat from the LP, while two bobcats could be taken from the UP. The length of the trapping season in the UP was greater than 10 times longer than the LP season (Table 1). Furthermore, trappers were allowed to take bobcats in the LP for the first time in recent years starting in 2004 (Frawley et al. 2005).

Although there were nearly 50% more bobcat hunters than trappers in Michigan during the 2004-2005 seasons, trappers registered more than 1.5 times as many bobcats as hunters. Bobcat hunters devoted an average of 56 days of effort per bobcat registered, while trappers spent about a mean of 47 days of effort per bobcat registered.

Hunters that used dogs were more successful than hunters using calls (22% of hunters using dogs registered a cat versus 13% of hunters using calls). Lovallo (2003) reported 35% of hunters using dogs were successful in Pennsylvania during 2002, while 11% of hunters using calls were successful. Kitchell and Olson (2004) reported 47% of hunters using dogs registered a bobcat in Wisconsin during 2003, while 13% of hunters using calls registered a bobcat.

Nearly 9% of the bobcat trappers in Michigan released a bobcat from their traps set during the 2004-2005 season, which was the same proportion reported among trappers in 2003 (Frawley et al. 2004). In comparison, 4% of Wisconsin bobcat trappers released a bobcat from their traps during 2002 and 2003 in Wisconsin (Kitchell and Olson 2003, 2004).

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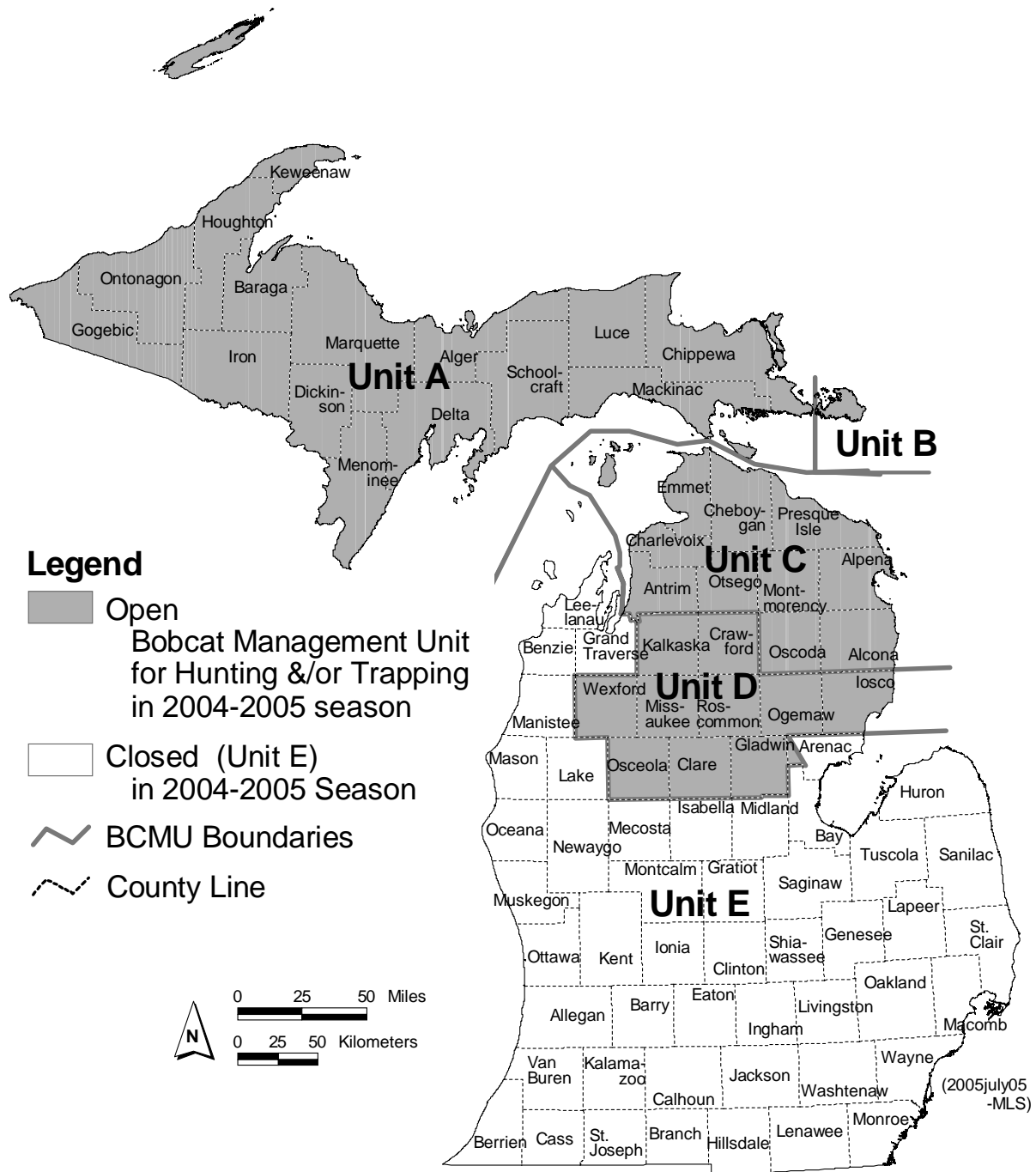


Figure 1. Bobcat Management Units in Michigan for the 2004-2005 hunting and trapping seasons.

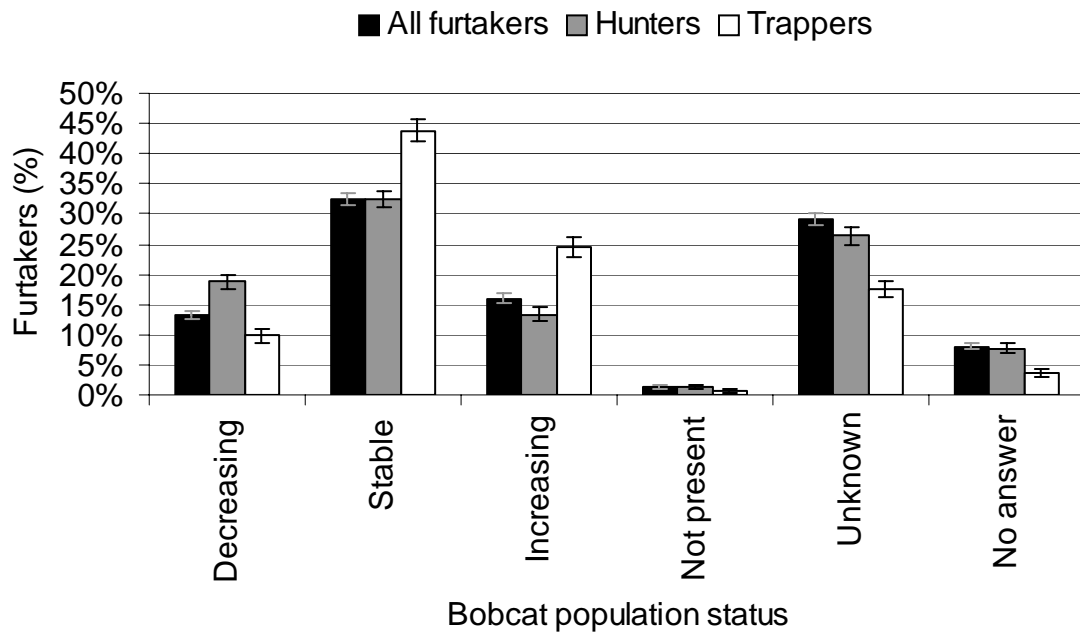


Figure 2. Status of bobcats in Michigan during 2004 as described by bobcat hunters and trappers. Vertical bars represent the 95% CL.

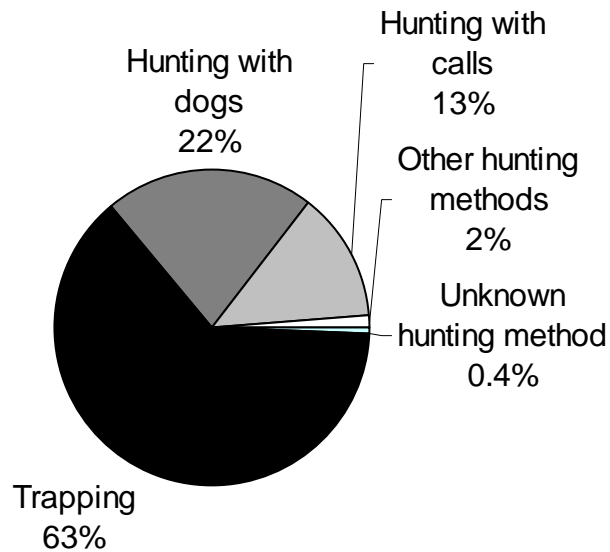


Figure 3. Proportion of bobcats registered in Michigan, 2004-2005 seasons, summarized by method of take.

Table 1. Bobcat hunting and trapping seasons in Michigan during the 2004-2005 season.

Season and area ^a	Season dates	Season length (days)
Hunting		
Units A and B (Upper Peninsula)	December 1, 2004-March 1, 2005	91
Unit C (Lower Peninsula)	January 1, 2005-March 1, 2005	62
Unit D (Lower Peninsula)	January 1, 2005-February 1, 2005	32
Trapping		
Units A and B	October 25, 2004-March 1, 2005	128
Units C and D	December 10-20, 2004	11

^aSee Figure 1 for location of management units.

Table 2. Estimated number of furtakers (hunters and trappers combined) attempting to capture a bobcat, days spent afield (effort), bobcats registered, and proportion of furtakers that registered a bobcat for the 2004-2005 season in Michigan, summarized by area.

Area	Furtakers ^a		Hunting and trapping effort (days)		Bobcats registered ^b		Furtakers that registered a bobcat	
	No.	95%	No.	95%	No.	95%	%	95%
		CL		CL		CL		CL
Upper Peninsula	1,365	39	33,946	1,728	698	40	38	2
Lower Peninsula	1,432	39	16,112	734	298	22	21	1
Unit C	758	32	8,743	587	159	16	21	2
Unit D	794	33	7,369	434	139	15	17	2
Unknown	100	13	278	100	3	3	1	2
Statewide	2,726	35	50,335	1,762	999	44	30	1

^aNumber of furtakers does not add up to statewide total because furtakers could hunt and trap in more than one area. Separate estimates for hunting and trapping seasons are presented in tables 4 and 7.

^bAlthough all furtakers harvesting a bobcat were required to present their animals at a Department of Natural Resource office for registration, this survey does not present information collected from registered bobcats.

Table 3. Estimated number of furtakers (hunters and trappers combined) attempting to capture a bobcat, days spent afield (effort), bobcats registered, and proportion of furtakers that registered a bobcat for the 2004-2005 season in Michigan, summarized by county.

County	Furtakers ^a		Hunting and trapping effort (days)		Bobcats registered		Furtakers that registered a bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	126	14	808	129	23	6	18	5
Alger	72	11	1,089	228	23	8	24	7
Alpena	148	16	1,692	259	26	7	18	4
Antrim	40	8	418	125	10	4	25	9
Arenac	17	5	97	38	1	2	8	9
Baraga	64	10	1,200	276	22	7	30	8
Charlevoix	36	8	373	107	9	4	24	9
Cheboygan	130	15	1,382	227	12	4	9	3
Chippewa	191	18	3,278	497	71	14	27	4
Clare	117	14	947	144	17	5	15	4
Crawford	107	13	743	130	7	4	7	3
Delta	223	19	4,275	558	107	16	36	4
Dickinson	117	14	2,215	425	49	11	33	6
Emmet	32	7	377	125	4	3	14	8
Gladwin	88	12	603	105	13	5	15	5
Gogebic	88	12	1,868	352	64	13	49	7
Houghton	64	10	1,783	444	29	9	34	8
Iosco	72	11	620	117	9	4	12	5
Iron	120	14	3,037	488	67	13	41	6
Kalkaska	72	11	525	107	9	4	12	5
Keweenaw	12	4	200	108	4	3	38	20
Luce	80	12	1,041	217	14	5	18	6
Mackinac	140	15	2,124	388	33	9	19	4
Marquette	162	16	3,440	539	40	9	22	4
Menominee	153	16	4,113	658	62	13	30	5
Missaukee	108	13	714	117	14	5	13	4
Montmorency	145	15	1,138	173	30	7	21	4
Ogemaw	110	14	810	130	16	5	14	4
Ontonagon	113	14	2,559	479	87	15	53	6
Osceola	75	11	474	88	17	5	23	6
Oscoda	106	13	777	135	12	4	11	4
Otsego	54	10	379	91	7	4	14	6
Presque Isle	140	15	1,398	224	26	7	19	4
Roscommon	185	17	1,306	158	25	6	13	3
Schoolcraft	132	15	1,724	338	26	7	18	4
Wexford	81	12	529	98	10	4	13	5
Unspecified	100	13	278	100	3	3	1	2

^aNumber of furtakers does not add up to statewide total because trappers could trap in more than one county.

Table 4. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan for the 2004-2005 seasons, summarized by area.

Area	Hunters ^a		Hunting effort (days)		Bobcats passed by hunters ^b		Bobcats registered by hunters		Hunters that registered at least one bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Upper Peninsula	665	31	7,289	552	574	78	150	18	18	2
Lower Peninsula	1,226	38	13,201	695	1,727	173	215	19	18	1
Unit C	680	31	7,509	556	879	117	130	15	19	2
Unit D	667	31	5,692	386	847	108	85	12	13	2
Unspecified	55	10	278	100	43	19	3	3	3	3
Statewide	1,816	40	20,768	877	2,344	192	369	26	18	1

^aNumber of hunters does not add up to statewide total because trappers could trap in more than one area.

^bBobcats that hunter could have harvested but chose not to harvest.

Table 5. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan for the 2004-2005 seasons, summarized by county.

County	Hunters ^a		Hunting effort (days)		Bobcats passed by hunters ^b		Bobcats registered by hunters		Hunters that registered at least one bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Alcona	110	14	658	117	88	31	19	6	17	5
Alger	42	8	377	97	26	9	6	4	10	6
Alpena	127	15	1,398	236	127	27	20	6	16	4
Antrim	30	7	279	102	9	4	7	4	24	10
Arenac	17	5	82	33	7	4	1	2	8	9
Baraga	19	6	75	28	1	2	1	2	8	8
Charlevoix	30	7	317	103	19	8	7	4	24	10
Cheboygan	117	14	1,192	216	136	40	9	4	7	3
Chippewa	106	13	704	125	39	14	14	5	12	4
Clare	95	13	709	122	82	22	13	5	14	5
Crawford	104	13	662	119	142	42	7	4	7	3
Delta	113	14	1,035	197	110	31	16	6	12	4
Dickinson	64	10	464	125	38	13	13	5	20	7
Emmet	25	6	320	121	14	8	3	2	12	9
Gladwin	75	11	460	91	67	23	7	4	10	4
Gogebic	36	8	298	80	54	23	19	8	32	10
Houghton	22	6	166	58	1	2	0	0	0	0
Iosco	59	10	500	107	43	16	7	4	12	6
Iron	39	8	241	67	25	18	7	4	15	8

^aNumber of hunters does not add up to statewide total because trappers could trap in more than one area.

^bBobcats that hunter could have harvested but chose not to harvest.

Table 5. (Continued) Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan for the 2004-2005 seasons, summarized by county.

County	Hunters ^a		Hunting effort (days)		Bobcats passed by hunters ^b		Bobcats registered by hunters		Hunters that registered at least one bobcat	
	No.	95% CL	No.	95% CL	No.	95% CL	No.	95% CL	%	95% CL
Kalkaska	64	10	401	88	58	21	1	2	2	2
Keweenaw	7	4	61	34	4	5	1	2	20	22
Luce	54	10	431	114	26	12	4	3	8	5
Mackinac	104	13	943	185	45	16	20	7	17	5
Marquette	98	13	818	154	59	21	9	4	9	4
Menominee	81	12	818	159	71	21	23	7	23	6
Missaukee	94	13	541	100	108	30	9	4	9	4
Montmorency	134	15	991	157	169	53	25	6	18	4
Ogemaw	95	13	589	104	74	24	14	5	15	5
Ontonagon	36	8	207	74	17	13	6	4	12	7
Osceola	61	10	359	76	64	20	9	4	14	6
Oscoda	100	13	733	131	113	41	10	4	10	4
Otsego	52	9	334	82	67	26	7	4	14	6
Presque Isle	132	15	1,288	219	137	37	23	6	18	4
Roscommon	162	16	1,057	142	158	35	12	4	7	3
Schoolcraft	77	11	649	130	58	16	10	4	13	5
Wexford	59	10	333	73	45	15	4	3	7	4
Unspecified	55	10	278	100	43	19	3	3	3	3

^aNumber of hunters does not add up to statewide total because trappers could trap in more than one area.

^bBobcats that hunter could have harvested but chose not to harvest.

Table 6. Estimated number of hunters, hunting effort (days), bobcats passed, bobcats registered, and proportion of hunters that registered a bobcat in Michigan for 2004-2005 seasons, summarized by hunting method and area.

Variable and area	Hunting method							
	Dogs		Calls		Other		Unknown	
	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL	Estimate	95% CL
Hunters (no.) ^a								
UP	259	20	360	24	64	10	20	6
LP	642	30	638	30	48	9	20	6
Unit C	376	24	335	23	26	7	10	4
Unit D	347	23	341	23	22	6	10	4
Unspecified	38	8	10	4	0	0	9	4
Statewide	855	34	969	35	111	14	48	9
Hunting effort (days)								
UP	3,427	428	2,972	274	745	219	146	60
LP	7,878	598	4,857	346	289	83	176	74
Unit C	4,601	468	2,655	273	184	72	69	56
Unit D	3,277	316	2,202	207	106	41	107	49
Unspecified	224	94	27	14	0	0	26	28
Statewide	11,529	760	7,856	434	1,034	234	349	103
Bobcats passed by hunters (no.)								
UP	406	71	137	26	22	11	9	6
LP	1,284	158	424	60	14	6	4	5
Unit C	654	109	215	40	10	5	0	0
Unit D	630	97	208	40	4	4	4	5
Unspecified	39	19	1	2	0	0	3	3
Statewide	1,729	176	563	66	36	12	16	8
Bobcats registered by hunters (no.)								
UP	100	16	40	9	9	4	1	2
LP	116	14	90	12	7	4	3	2
Unit C	75	11	49	9	4	3	1	2
Unit D	40	8	40	8	3	2	1	2
Unspecified	3	3	0	0	0	0	0	0
Statewide	218	21	130	15	16	5	4	3
Hunters that registered at least one bobcat (%)								
UP	30	4	10	2	14	6	7	8
LP	18	2	14	2	15	7	14	11
Unit C	20	3	15	3	17	10	14	16
Unit D	12	2	12	2	13	10	14	16
Unspecified	4	4	0	0	0	0	0	0
Statewide	22	2	13	1	14	4	9	6

^aNumber of hunters does not add up to statewide total because hunters could hunt in more than one area.

Table 7. Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan for the 2004-2005 seasons, summarized by area.

Area	Trappers ^a		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers ^b		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
	95%		95%		95%		95%		95%		95%		95%	
	No.	CL	No.	CL	No.	CL	No.	CL	No.	CL	%	CL	%	CL
Upper Peninsula	869	34	26,656	1,590	765	59	207	38	548	36	50	2	46	2
Lower Peninsula	354	23	2,911	226	158	25	69	18	82	12	29	3	23	3
Unit C	152	16	1,233	148	56	13	27	11	29	7	29	5	19	4
Unit D	202	18	1,677	176	101	21	42	15	54	10	30	4	26	4
Unspecified	46	9	0	0	0	0	0	0	0	0	0	0	0	0
Statewide	1,249	38	29,567	1,586	923	63	276	42	630	37	43	2	39	2

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one county.

^bThe difference between the number of bobcats captured and number of bobcats released does not equal the number of bobcats registered because incidental captures were not included.

Table 8. Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan for the 2004-2005 seasons, summarized by county.

County	Trappers		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
	No.	95%	No.	95%	No.	95%	No.	95%	No.	95%	%	95%	%	95%
		CL		CL		CL		CL		CL		CL		CL
Alcona	25	6	150	45	4	3	0	0	4	3	18	10	18	10
Alger	39	8	711	190	27	10	9	5	17	7	41	10	33	10
Alpena	40	8	294	65	13	5	4	3	6	3	29	9	14	7
Antrim	14	5	139	48	6	4	3	2	3	2	30	17	20	15
Arenac	3	2	14	16	0	0	0	0	0	0	0	0	0	0
Baraga	51	9	1,125	268	38	12	14	8	20	7	46	9	34	9
Charlevoix	6	3	56	31	1	2	1	2	1	2	25	27	25	27
Cheboygan	27	7	191	52	9	5	6	5	3	2	21	10	11	8
Chippewa	106	13	2,574	452	75	18	19	8	56	12	41	6	37	6
Clare	29	7	239	60	10	7	6	5	4	3	20	10	15	9
Crawford	9	4	81	37	0	0	0	0	0	0	0	0	0	0
Delta	130	15	3,239	480	127	25	36	14	91	15	54	6	52	6
Dickinson	67	11	1,751	363	43	11	7	4	36	9	48	8	43	8
Emmet	7	4	58	31	3	2	1	2	1	2	40	27	20	22
Gladwin	19	6	143	49	20	14	14	11	6	3	31	15	31	15
Gogebic	59	10	1,570	339	74	22	27	16	45	11	59	8	54	9
Houghton	49	9	1,617	426	40	12	9	6	29	9	50	9	44	9
Iosco	17	5	120	41	6	6	3	3	1	2	8	9	8	9
Iron	97	13	2,795	474	65	13	6	4	59	12	48	7	45	7

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 8. (Continued) Estimated number of trappers, trapping effort (days), bobcats captured, bobcats released, bobcats registered, and proportion of trappers that captured and registered a bobcat in Michigan for the 2004-2005 seasons, summarized by county.

County	Trappers		Trapping effort (days)		Bobcats captured by trappers		Bobcats released alive by trappers		Bobcats registered by trappers		Trappers that captured at least one bobcat		Trappers that registered at least one bobcat	
	No.	95%	No.	95%	No.	95%	No.	95%	No.	95%	%	95%	%	95%
		CL		CL		CL		CL		CL		CL		CL
Kalkaska	17	5	124	43	9	4	1	2	7	4	42	16	42	16
Keweenaw	4	3	139	103	3	2	0	0	3	2	67	36	67	36
Luce	38	8	610	179	12	4	1	2	10	4	31	10	27	10
Mackinac	49	9	1,181	320	16	7	3	3	13	6	21	8	18	7
Marquette	90	12	2,622	495	45	12	13	8	32	8	34	7	31	6
Menominee	88	12	3,294	624	43	11	4	4	39	10	34	7	33	7
Missaukee	23	6	174	50	12	7	4	4	6	3	25	12	25	12
Montmorency	20	6	148	46	10	5	4	4	6	3	43	15	29	14
Ogemaw	27	7	221	60	6	5	4	5	1	2	11	8	5	6
Ontonagon	91	12	2,353	447	111	27	30	20	81	15	62	7	62	7
Osceola	20	6	116	39	9	4	0	0	9	4	43	15	43	15
Oscoda	9	4	43	23	1	2	0	0	1	2	17	18	17	18
Otsego	4	3	45	28	0	0	0	0	0	0	0	0	0	0
Presque Isle	16	5	110	39	9	8	7	8	3	2	18	13	18	13
Roscommon	35	8	249	62	20	8	4	4	13	5	42	11	38	11
Schoolcraft	62	10	1,074	276	45	16	27	12	16	6	33	8	21	7
Wexford	29	7	197	53	10	5	4	3	6	3	30	11	20	10
Unspecified	46	9	0	0	0	0	0	0	0	0	0	0	0	0

^aNumber of trappers does not add up to statewide total because trappers could trap in more than one county.

Table 9. Trap type used by bobcat trappers in the 2004-2005 season in Michigan.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	83	1	1,040	36
Conibears	39	2	493	27
Live traps	<1	<1	6	3
Snares ^a	1	<1	12	4

^aSnares were not legal to use to capture bobcats, although they were reported.

Table 10. Preferred trap type of bobcat trappers in Michigan.

Trap type	Trappers (%)	95% CL	Trappers (No.)	95% CL
Foothold traps	48	2	599	29
Conibears	25	2	307	22
Snares ^a	4	1	49	9
No preference	22	2	275	21
No answer	2	<1	20	6

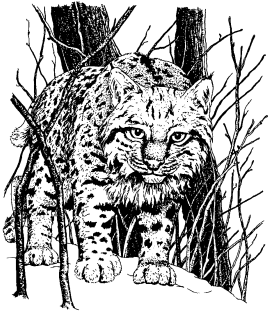
^aSnares were not legal to use to capture bobcats.

Appendix A. The questionnaire sent to people that obtained a bobcat harvest permit in Michigan for the 2004-2005 bobcat hunting and trapping seasons.



BOBCAT HUNTER AND TRAPPER SURVEY

This information is requested under authority of Part 435, 1994 PA 451, M.C.L. 324.43539.



- It is important that you complete and return this questionnaire even if you did not harvest a bobcat during the most recent hunting and trapping seasons.
- Only the person this questionnaire was addressed to should answer these questions.

PART A: Hunting Questions

1. Did you hunt bobcats during the 2004-05 season?
1 ☐ Yes 2 ☐ No (Skip to Question #9)

2. About how many years have you hunted bobcats? _____ Years

3. If you hunted bobcats during the 2004-05 season, please complete the following table.

HUNTING METHOD (Select hunting method used.)	COUNTY HUNTED (For each hunting method used, list the county that you hunted on separate lines.)	NUMBER OF DAYS HUNTED (Count all days hunted even if you did have an opportunity to take a bobcat)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)	NUMBER OF BOBCATS NOT TAKEN (Count the number of bobcats you called within range or treed but choose <u>not</u> to harvest.)
1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other				
1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other				
1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other				
1 <input type="checkbox"/> Dogs 2 <input type="checkbox"/> Calls 3 <input type="checkbox"/> Other				

4. On what lands do you hunt bobcats in most years? (You may check more than one.)
1 ☐ Property owned by me or my family 2 ☐ Private land, with permission
3 ☐ Private land open to public hunting (For example, Commercial Forests, Hunter Access Program) 4 ☐ Public land (State Game Area, State or National Forest, etc.)

5. Did you hunt bobcats with dogs during the 2004-05 season?
1 ☐ Yes 2 ☐ No (Skip to Question #9)

6. Who owned the dogs that you used to hunt bobcats during the 2004-05 season. (Check one)
1 ☐ Normally use dogs that I own. 2 ☐ Normally use dogs owned by someone else.
3 ☐ Normally use a combination of my dogs and dogs owned by someone else.

7. Report the number of bobcat chases with dogs you participated in during the 2004-05 season?

_____ Chases
8. Did you hire a guide to assist with hunting bobcats at any time during the 2004-05 season?

1

☐

 Yes

2

☐

 No

PART B: Trapping Questions

9. Did you attempt to harvest a bobcat while trapping in the 2004-05 season?

1

☐

 Yes

2

☐

 No (Skip to Question #16)
10. About how many years have you trapped bobcats?

_____ Years
11. If you trapped bobcats during the 2004-05 season, please complete the following table.

COUNTY TRAPPED (List each county that you trapped for bobcat.)	NUMBER OF DAYS TRAPPED	NUMBER OF BOBCAT CAUGHT (Count all bobcats you removed from your traps dead or alive.)	NUMBER OF BOBCAT CAUGHT AND RELEASED (Count only bobcats you released alive from your traps.)	NUMBER OF BOBCAT REGISTERED (Count only bobcat where a seal was attached to the pelt, and the animal was returned to you.)

12. On what lands do you trap bobcats in most years? (You may check more than one.)

1

☐

 Property owned by me or my family

2

☐

 Private land, with permission

3

☐

 Private land open to public hunting (For example, Commercial Forests, Hunter Access Program)

4

☐

 Public land (State Game Area, State or National Forest, etc.)
13. Which capture method did you use when you attempted to harvest bobcats in the 2004-05 season? (Check all that apply.)

1

☐

 Foothold traps

2

☐

 Conibears

3

☐

 Other (please specify _____)
14. Which capture method do you prefer to catch bobcats? (Check one.)

1

☐

 Foothold traps

2

☐

 Snares

3

☐

 Conibears

4

☐

 No preference
15. Did you catch any bobcats in traps that were set for another species in the 2004-05 season?

1

☐

 Yes

2

☐

 No

PART C: General Questions

16. Compared to the previous three years, what is the status of bobcats in the county that you prefer to hunt or trap bobcats in the 2004-05 season?

1

☐

 Increasing

2

☐

 Decreasing

3

☐

 Stable

4

☐

 Not present

5

☐

 Unknown
17. Do you have any comments or suggestions about bobcat management in Michigan?